

Application No.:09/681,019
Amendment dated: November 5, 2003
Reply to Office Action of August 5, 2003

d.) Remarks

Claims 1-8 and 10-41 are pending in this application. Claims 1, 3, 5, 6, 10, 13, 14, 21, 22, 23, 27, 28, and 32 have been amended in various particulars as indicated hereinabove. Claims 11-12, and 29-30 have been canceled.

Turning first to the Office Action Summary Sheet Claims 1, 2, 4, 10-12, 21, 22, and 28-30 were rejected. Claims 3, 5-8, 13-20, 23-27, and 31-41 were objected to and indicated as allowable if rewritten in independent format.

Turning now to the merits, Claims 1, 2, 4, 21, 22, and 29 were rejected under 35 U.S.C. 102(b) over U.S. Patent No. 5, 825,020 to Hansma et al. ("Hansma"). Applicants disagree with the rejection and amend and argue as follows.

In order to be anticipatory under section 102(b), a single reference must disclose each and every element of the claimed invention¹. Those elements must be either inherent or expressly disclosed², and they must be arranged as in the claim³. For anticipation, there must be no difference between the claimed invention and the references disclosed, as viewed by a person of ordinary skill in the field of the invention⁴.

The Hansma patent relates to atomic force microscopy. An Atomic Force Microscope (AFM) is one of the so-called "scanning-probe" microscopes, operating on the principle of interrogating the surface of a specimen with a sharp needle, or a tip. In Atomic Force Microscopy the tip touches the surface of the specimen and the force between the tip and the surface is recorded. The AFM tip is attached to a tiny cantilever characterized by a low spring constant. The AFM measures the contours of constant attractive or repulsive forces between the surface and the tip. In Atomic Force Microscopy the laser beam never touches the surface of the specimen and never scans the specimen, as is consistently described in Hansma (col. 2, lines 14-20). Only the cantilever

¹ In re Paulsen, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994)

² Constant v. Advanced Micro-Devices, 7 USPQ2d 1057 (Fed. Cir. 1988)

³ Richardson v. Suzuki Motor Co., 9 USPQ2d 1913 (Fed. Cir. 1989)

⁴ Scripps Clinic & Research Found. V. Genentech, Inc., 18 USPQ2d 1001 (Fed. Cir. 1991)

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touches the surface of the specimen. Consistently, in Hansma the focused light beam is directed onto a cantilever to be reflect from the cantilever to a detector.

The working principle of the scanning microscope of the present invention, which is an optical microscope, not an Atomic Force Microscope, is to scan the specimen with a laser beam and detect scattered, reflected or fluorescent light as an output signal. The light beam in Hansma, as it would be in any Atomic Force Microscope, always impinges on the cantilever and never impinges on the surface of the specimen itself, therefore, never scanning the specimen (Abstract, 2nd sentence; also col. 4, lines 29-45; also Fig. 1). Therefore, the step of scanning a specimen region with the focused light beam to define a current focus position in a scanning microscope with an acousto-optical element, as claimed in amended independent Claim 1 is not present anywhere in Hansma, since in Hansma no scanning of the specimen with a laser beam takes place. Therefore, amended Claim 1 cannot be anticipated by Hansma. Applicants respectfully request that the 102(b) rejection be withdrawn and Claim 1 be allowed. Claims 2 and 4 depend off Claims 1 and are now allowable.

For similar reasons, amended independent Claim 21 cannot be anticipated by Hansma, because no means for scanning across a specimen with a focused light beam in a scanning microscope with an acousto-optical element can be found in Hansma, which describes an Atomic Force Microscope. Therefore, amended Claim 21 cannot be anticipated by Hansma. Applicants respectfully request that the 102(b) rejection be withdrawn and Claim 21 be allowed. Claim 22 depends off Claims 1 and is now allowable.

Claims 10, 12, 28, and 30 were rejected under 35 U.S.C. 103(a) over U.S. Patent No. 5,825,020 to Hansma et al. ("Hansma"). Applicants disagree with the rejection and assert the following.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

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expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations⁵.

Upon examination of each of the three legal requirements of the prima facie case of obviousness in view of the Patent Office's rejection of Claims 10 and 28 (Claims 12 and 30 are canceled), Applicants assert that the Patent Office has satisfied none of the three requirements. In particular, Hansma describes an Atomic Force Microscope, which operates on the principle physically different from the scanning optical microscope of the present invention. The movable lens system in Hansma (38) changes the focus position in accordance with the moveable cantilever, while the optical system of the present invention does not change the focus position. Therefore, no artisan of ordinary skill in the art would have used the optical system of Hansma in the present invention as claimed in amended Claim 21. Moreover, Hansma does not even describe scanning the specimen and means for scanning the specimen with a focused beams in a scanning microscope with an acousto-optical element,, as claimed in Claims 1 and 21, since Hansma relates to AFM in which the beam impinges only on the cantilever and does not scan the specimen. Therefore, Claims 10 and 28 cannot be obvious under 35 U.S.C. 103(a) over Hansma and should be allowed.

Applicants believe that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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⁵ MPEP 2142-2143